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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/470,284	12/22/1999	SCOTT PATRICK CAMPBELL	08305/062001	5973

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EXAMINER

HARRIS, TIA M

ART UNIT PAPER NUMBER

2615

DATE MAILED: 01/02/2004

15

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/470,284

Applicant(s)

CAMPBELL, SCOTT PATRICK

Examiner

Tia M Harris

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— The MAILING DATE of this communication appears on the cover sheet with the correspondence address —

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 07 October 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-60 is/are pending in the application.
- 4a) Of the above claim(s) 7-9, 20-27, 29, 32-51 and 55-60 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6, 10-19, 28, 30, 31 and 52-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- 1) ☐ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election without traverse of Group I, and further of Species I in Paper No. 14 is acknowledged. Claim 29 is directed to Species III and therefor is withdrawn from consideration. The following office action is therefor addressing elected claims 1-6, 10-19, 28, 30-31 and 52-54.

***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1-6, 10-11, 18-19, 28, 30-31, and 52-54 are rejected under 35 U.S.C. 102(e) as being anticipated by Ueda (6122009).

**(Claims 1, 28, 52 and 54)** Ueda discloses a cover for an image sensor array, the cover comprising a plate (4) formed of substantially transparent material and placed adjacent to the image sensor array (see fig 6), the plate having a plurality of surfaces forming a lensing structure, such that at least one of the plurality of surfaces is contoured into a lensing surface

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capable of changing imaging characteristics (see figs 6 and 8; col 7, lines 14-20; col 8, lines 4-11).

**(Claim 2)** Ueda further discloses the plate is made of a transparent material, which is plastic, the plate being transparent over all, or a substantial portion of, the image sensor array (see figs 6 and 8; col 8, lines 4-11).

**(Claim 3)** Ueda further discloses the lensing structure is made of at least one lensing element, the lensing structure covering all or a substantial portion of the image sensor array, such that the at least one lensing element is formed on the lensing surface (see figs 6 and 8; col 8, lines 4-11).

**(Claims 4 and 53)** Ueda further discloses the at least one lensing element is a refractive lensing element in that a lensing element by definition is inherently refractive when allowing light to pass through (see also col 11, line 39).

**(Claim 5)** Ueda further discloses the refractive lensing element includes a concave lens (54B; see fig 47).

**(Claim 6)** Ueda further discloses the refractive lensing element includes a convex lens (4 or 54A; see figs 6 and 47).

**(Claim 10)** Ueda further discloses the lensing structure is a mounting structure formed on the lensing surface of the plate for attaching additional lensing elements to the plate (see fig 47).

**(Claim 11)** Ueda further discloses the lensing structure also includes an alignment mark (see fig 47; the step-like portions extending from the lensing structure serve as alignment marks to make sure the lensing elements are mounted correctly), formed on the lensing surface, to guide the additional lensing elements when attaching to the plate.

**(Claim 18)** Ueda further discloses the lensing structure is a hybrid of lensing elements and mounting structures for additional lensing elements (see fig 47).

**(Claim 19)** See the rejection of claim 11 above.

**(Claims 30 and 31)** Ueda further discloses the lensing structure is attached to the cover plate, wherein the lensing structure and the cover plate are injection molded as a single-piece structure (see figs 6 and 8).

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 10 and 12-13, 28, 30-31, and 52-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Izumi et al (hereafter referred to as Izumi) (5400072).

**(Claims 1, 28, 52 and 54)** Izumi discloses a cover for an image sensor array, the cover comprising a plate (L4) formed of substantially transparent material and placed adjacent to the image sensor array (see fig 1A), the plate having a plurality of surfaces forming a lensing structure, such that at least one of the plurality of surfaces is contoured into a lensing surface capable of changing imaging characteristics (see figs 1A and 2A).

**(Claim 10)** Izumi further discloses the lensing structure is a mounting structure formed on the lensing surface of the plate for attaching additional lensing elements to the plate (see figs 1A and 2A).

**(Claim 12)** Izumi further discloses the mounting structure is formed by a mesa-like protrusion (ribs 21, 31, 41, and 51) on the lensing surface (see figs 1A and 2A; col 4, lines 29-34).

**(Claim 13)** Izumi further discloses the mounting structure is formed by a ringed-wall structure having an inside wall and an outside wall, the ringed-wall structure formed on the lensing surface (ringed-wall structure since the device is circular; see figs 1B and 2B).

**(Claims 30 and 31)** Izumi further discloses the lensing structure is attached to the cover plate, wherein the lensing structure and the cover plate are injection molded as a single-piece structure (see figs 1A and 2A).

**(Claim 53)** Izumi further discloses the at least one lensing element is a refractive lensing element in that a lensing element by definition is inherently refractive when allowing light to pass through.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 14-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Izumi in view of Ogihara (3620149).

**(Claim 14)** Izumi discloses a cover for an image sensor array as disclosed above, but does not specifically disclose a threaded retaining ring on the inside wall of the cover for firmly attaching the additional lensing elements to the plate.

Ogihara discloses a threaded type coupling device for coupling a lens barrel with a camera body wherein a threaded retaining ring (32) on the inside wall of the mounting structure is used for firmly attaching the additional lensing element (lens barrel) to the mounting structure (see fig 1).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate the threaded retaining ring in the manner taught by Ogihara into the mounting structure of Izumi to provide a simpler construction, easier manufactured and less costing mounting structure that is used when attaching additional lensing elements.

**(Claim 15)** Izumi further discloses the cover further comprises a threaded retaining ring on the outside wall for firmly attaching the additional lensing element to the plate (see fig 2A).

**(Claim 16)** Izumi further discloses the mounting structure is formed by a well-like depression on the lensing surface (the well-like depression is formed, for example, between lenses L3 and L4, between the actual lensing element (of L4 for example) and the rib (21 for example)).

**(Claim 17)** Although Izumi illustrates the lenses mounted on top of one another as shown in fig 2A (for example), it would have been obvious to one having ordinary skill in the art at the time the invention was made to incorporate a threaded retaining ring on the inside wall of the depression of Izumi for firmly attaching the additional lensing element to the plate, in the manner taught by Ogihara (see fig 1), to provide a simpler construction, easier manufactured and less costing mounting structure that is used when attaching additional lensing elements and also to allow for an easier way of adjusting the focus of the lensing elements.

### **Conclusion**

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Takachi (US 2003/0137595 A1) discloses an image pickup device and camera with a cover for an image sensor array. Morioka et al (5400073) discloses a video camera wherein an optical lens is mounted to a mounting structure via a threaded opening. Glenn et al (US 6266197 B1) discloses a molded window array for image sensor packages, wherein an optical lens is attached to the lens holder via a threaded mounting structure. Maurinus (5302778)

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discloses a semiconductor insulation for optical devices. Beaman et al (5821532) discloses an imager package substrate. O'Regan et al (5359190) discloses a method and apparatus for coupling an optical lens to an imaging electronics array.

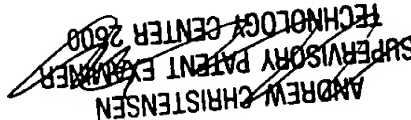
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tia M Harris whose telephone number is 703-305-4807. The examiner can normally be reached on M-F 8:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Christensen can be reached on 703-308-9644. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9314.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-4700.

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12/29/03

  
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